

REMARKS

Initially, at page 6 of the Office Action, the Examiner objects to claim 19 as being dependent on a rejected base claim (claim 15) and indicates that the claim would be allowable if rewritten to include the limitations of the base claim and any intervening claim. The applicant gratefully acknowledges this indication of allowability. Claim 19 is rewritten herein to include the limitations of claim 15 (without the prepositional phrase "in the form of a film") and this re-writing of claim 19 does not add new matter. Allowance of claim 19 is earnestly solicited.

Also, the applicant has, as discussed below, amended the other claims of the application. As amended, these claims should be in condition for allowance and a notice of allowance therefore is earnestly solicited.

Claims 1-6 are canceled by the within amendment. The applicant is canceling these claims without prejudice to the applicant's right to assert the subject matter of the canceled claims in a continuation application.

Claim 7 is amended to clarify that the composition comprises synthetic polyisoprene latex and an accelerator system having about 0.5 parts per hundred rubber ("phr") to about 4.0 phr dithiocarbamate and greater than 0.2 phr to about 4.0 phr thiourea. Claim 15 is amended to clarify that the film in the method of the present invention is formed from a composition comprising synthetic polyisoprene latex and an accelerator system having about 0.5 phr to about 4.0 phr dithiocarbamate and greater than 0.2 phr to about 4.0 phr thiourea. This amendment is supported in the specification, including at ¶ 12 and elsewhere.

Claim 7 is also amended to delete the recitation to "the composition is capable of forming", and to clarify that the polyisoprene film formed from heating and curing the composition has the tensile strength range set forth in the claim. This amendment rewords claim 7 in this regard and does not add new matter. The claim is supported in the specification, including at ¶ 7 and elsewhere.

Claim 15 is also amended to delete the prepositional phrase "in the form of a film" as requested by the Examiner. This amendment does not add new matter.

Claim 8 is amended to recite that the amount of dithiocarbamate may be from about 0.5 phr to about 1.5 phr. This amendment is supported in the specification at ¶ 16, and elsewhere.

New claim 21 is added to the application, which is dependent from claim 7, and recites an amount of thiourea in the composition of about 0.5 phr to about 4 phr. New claim 22 is added to the application, which is dependent from claim 7, and recites an amount of thiourea in the composition of about 0.5 phr to about 1.5 phr. These new claims are supported in the specification at ¶ 16, and elsewhere.

New claims 23-25, which are all dependent from claim 15, are added to the application. Claim 23 recites that the amount of dithiocarbamate in the method may be from about 0.5 phr to about 1.5 phr, new claim 24 recites that the amount of thiourea in the method may be from about 0.5 phr to about 4 phr, and new claim 25 recites that the amount of thiourea in the method may be from

about 0.5 phr to about 1.5 phr. These new claims are supported in the specification at ¶ 16, and elsewhere.

New claim 26, which is dependent from claim 15, recites that the accelerator system used in the method does not comprise diphenyl guanidine and tetramethylthiuram disulfide. This new claim is supported in the specification, including at ¶ 12 and elsewhere.

At page 2 of the office action, the Examiner objects to claim 15 on the basis that the prepositional phrase "in the form of a film" is awkward. Claim 15 is amended to delete this phrase from the claim (and also in rewritten claim 19). The applicant has elected not to insert the phrase "into" as suggested by the Examiner because the claims recite a step of forming a film in the method thus removing any need to recite in the preamble that the method cures the synthetic polyisoprene latex into the form of a film. The clarification of claim 15 in this regard should obviate the Examiner's objection.

At page 2 of the Office Action, the Examiner rejects claims 7-14 under 35 U.S.C. § 112 (second paragraph) as being indefinite for failing to particularly point out and distinctly claim the present invention. Reconsideration and withdrawal of this rejection is respectfully requested.

The Examiner asserts that claim 7 is indefinite with respect to the recitation of "capable" in the claim, because, in the Examiner's estimation, it is not clear whether the film has the recited tensile strength. Claim 7, as amended, deletes the term "capable" and recites that the film formed from heating and curing the composition has the tensile strength of 3,000 psi to 5,000 psi, as set

forth in the claims. As amended, claim 7 complies with all requirements of 35 U.S.C. § 112 (second paragraph).

At page 3 of the Office Action, the Examiner rejects Claims 1-6 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,466,757 to Wantabe, *et al.* Claims 1-6 are canceled by the within amendment and, thus, this rejection of the claims is now moot. Withdrawal of this rejection is respectfully requested.

At pages 3-4 of the Office Action, the Examiner rejects Claims 1-5 under 35 U.S.C. § 102(b) as being anticipated by GB 1,185,896 to Cain, *et al.* As discussed above, claims 1-6 are canceled by the within amendment and, thus, this rejection of claims 1-5 is now moot. Withdrawal of this rejection is respectfully requested.

At page 4 of the Office Action, the Examiner rejects Claims 1, 2 and 4 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,594,073 to Crepeau, *et al.* As discussed above, claims 1-6 are canceled by the within amendment and, thus, this rejection of claims 1, 2 and 4 is now moot. Withdrawal of this rejection is respectfully requested.

At page 4 of the Office Action, the Examiner rejects Claims 1-5 and 7-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,618,861 to Saks *et al.* ("Saks"). Reconsideration and withdrawal of this rejection is respectfully requested.

As discussed above, Claims 1-6 are canceled by the within amendment. As such, the rejection of claims 1-5 under Saks is now moot.

Claim 7 is amended to recite that the composition comprises synthetic polyisoprene latex and an accelerator system having about 0.5 phr to about 4.0 phr dithiocarbamate and greater than 0.2 phr to about 4.0 phr thiourea. The composition, when cured, forms a polyisoprene film having tensile strength of about 3,000 psi to about 5,000 psi. As discussed in the specification, polyisoprene latex films having these relatively high tensile strengths are conventionally very difficult to obtain, primarily because no suitable accelerator system was available to promote the sulfur cross-linking during the curing cycle. (See, specification at ¶ 3.) Generally, only tensile strengths of about 500 psi to 2,000 psi were achieved when curing polyisoprene latex. Only an accelerator system comprising zinc diethyldithiocarbamate ("ZDEC"), zinc 2-mercaptobenzothiazole ("ZMBT"), and diphenyl guanidine, which is not the accelerator system of the present invention, is known to the inventor to achieve tensile strengths in excess of 3,000 psi. (See, specification at ¶ 4.)

The inventors have discovered that the compositions comprising polyisoprene latex and an accelerator system of about 0.5 phr to about 4.0 phr dithiocarbamate and greater than 0.2 phr to about 4.0 phr thiourea unexpectedly provides cured films having tensile strengths of about 3,000 psi to about 5,000 psi. (See, Specification at ¶ 12.) The claims have been amended to recite this special range of components in the accelerator system used in conjunction with the polyisoprene latex in the composition.

The Examiner asserts that Saks discloses an accelerator system comprising 0.2 phr zinc dibutyldithiocarbamate, 0.2 phr zinc

diethyldithiocarbamate, and 0.2 phr 1,3-diphenyl-2-thiourea, and also zinc mercaptobenzothiozole. On this basis the Examiner argues that the composition of the present invention is essentially the same as the polyisoprene latex composition disclosed in Saks and deems the composition of Saks as capable of forming a film with a tensile strength of 3,000 psi to 5,000 psi. The Examiner cites *In re Spada*, 911 F. 2d 705, 709, 15 U.S.P.Q. 1655, 1658 (Fed. Cir. 1990) for the proposition that if the prior art teaches the identical chemical structure, the properties disclosed by the applicant and/or the claims are necessarily present.

Saks concerns a multiple dipping process to make gloves. (See, Saks at column 1, lines 51-59.) The example of Saks teaching of polyisoprene latex concerns compositions having 0.4 phr dithiocarbamate and 0.2 phr 1,3-diphenyl-2-thiourea. The present invention, as set forth in the amended claims, however, comprises an accelerator system having a minimum of about 0.5 phr dithiocarbamate and greater than 0.2 phr thiourea. Thus, the present invention has different amounts of dithiocarbamate and thiourea than disclosed in Saks, in that there is more dithiocarbamate and more thiourea in the composition comprising polyisoprene latex and the accelerator system of the present invention than in the polyisoprene latex compositions disclosed and taught in Saks. Accordingly, Saks does not expressly or inherently disclose each and every element of the present invention. As such, the present invention, as set forth in the amended claims, is not anticipated by Saks.

Considering that the present invention, as set forth in the amended claims, does not have the same composition as that disclosed in Saks, the present

invention does not have the identical structure as Saks. Hence, *In re Spada*, *supra*, is not applicable to the present invention and the composition disclosed in Saks cannot be deemed to have the same properties as the present invention.

The present invention is also not obvious over Saks. Saks teaches of polyisoprene latex compositions with only 0.4 phr dithiocarbamate and 0.2 phr thiourea. In the present invention, the compositions comprise polyisoprene latex and an accelerator system having about 0.5 phr to about 4.0 phr dithiocarbamate and greater than 0.2 phr to about 4.0 phr thiourea and, as discussed in the specification, these polyisoprene latex compositions unexpectedly provide cured films having tensile strengths of about 3,000 psi to about 5,000 psi. Thus, the range of dithiocarbamate and thiourea set forth in the claims is neither taught nor suggested by Saks and the composition of the present invention has unexpected properties. Therefore, the present invention, as set forth in the amended claims, is not obvious over Saks.

At pages 5-6 of the Office Action, the Examiner rejects Claims 15-18 and 20 under 35 U.S.C. § 103(a) as being obvious over Saks in view of U.S. Patent No. 6,828,387 to Wang *et al.* ("Wang"). Reconsideration and withdrawal of this rejection is respectfully requested.

The Examiner asserts that Saks teaches a method for curing synthetic polyisoprene latex with an accelerator system comprised of a dithiocarbamate and a thiourea. The Examiner further asserts that Saks is silent as to curing time and temperature but that Wang teaches of a process for curing rubber at 120 °C for about 20 minutes. On this basis, the Examiner concludes that the method

claimed in the instant application is obvious because Wang teaches of curing conditions suitable for curing polyisoprene and, in the Examiner's estimation a reasonable basis exists that the combination of Saks and Wang would result in the formation of a polyisoprene film having the same properties as set forth in the method claims of instant application. The Examiner further asserts that aspects of the dependent method claims are taught in the art.

Claim 15 is amended to recite that the composition used in the method comprises synthetic polyisoprene latex and an accelerator system having about 0.5 phr to about 4.0 phr dithiocarbamate and greater than 0.2 phr to about 4.0 phr thiourea. As discussed above, polyisoprene films formed from this composition unexpectedly have tensile strengths of about 3,000 psi to about 5,000 psi. Prior to the within invention, polyisoprene films with these high tensile strengths could not be readily obtained using a dithiocarbamate and thiourea accelerator system in conventional film forming methods. Indeed, the teaching of Saks requires a composition having only 0.4 phr dithiocarbamate and 0.2 phr 1,3-diphenyl-2-thiourea. Thus combining Saks, which does not teach the specific polyisoprene latex composition of the present invention with Wang, which is cited for curing conditions, does not teach or suggest a method for curing the specific composition of the present invention comprising synthetic polyisoprene latex and the accelerator system set forth in the amended claims at the conditions set forth in the amended claims to arrive at the films having the tensile strength of the 3,000 psi to 5,000 psi. Therefore, the present invention is not obvious over Saks in view of Wang.

Furthermore, because the composition of the present invention is different from, and not taught or suggested by, Saks, the combined teachings of Saks in view of Wang, would not arrive at, or teach or suggest arriving at, the unexpected films of the present invention. At best, Saks combined with Wang would teach of curing compositions of polyisoprene latex and accelerator having less dithiocarbamate and less thiourea than in the accelerator system of the present invention. The art teaches that such compositions like those of Saks provide films with lower tensile strengths than set forth in the claims. Hence, combining Saks and Wang does not teach of methods to obtain polyisoprene latex films having tensile strength of 3,000 psi to 5,000 psi, particularly compositions having the accelerator system set forth in the amended claims. Accordingly, the present invention, as set forth in the amended claims, is not obvious over Saks in view of Wang.

Claim 26 is added which recites that the accelerator used in the method does not comprise diphenyl guanidine or tetramethylthiuram disulfide, which, as discussed in the specification are accelerant additives. The composition of Saks has tetramethylthiuram disulfide. Thus, Saks in view of Wang, teach away from the embodiment of the invention set forth in claim 26, in that the combined references not only teach of having different amounts of dithiocarbamate and thiourea, but also teach of additives like tetramethylthiuram disulfide which is not an aspect of the present invention. As such, the present invention, including the embodiment of claim 26, is not obvious over Saks in view of Wang.

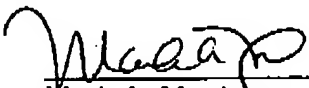
Conclusion

The instant application is believed to be in condition for allowance. A Notice of Allowance of claims 7-26 is respectfully requested. The Examiner is invited to telephone the undersigned at (908) 722-0700 if it is believed that further discussions, and/or additional amendment would help advance the prosecution of the instant application.

If any extension of time for this response is required, applicant requests that this be considered a petition therefor. Please charge any required petition fee to the Deposit Account No. 14-1263.

Please charge any insufficiency of fees, or credit any excess, to the Deposit Account No. 14-1263.

Respectfully submitted,


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June 20, 2005

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